

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Amedica

Utah Manufacturing Extension Partnership

AMEDICA Applies Lean to Manufacturing Orthopedic Implants

Client Profile:

AMEDICA Corporation is an emerging orthopedic implant company focused on using its silicon nitride ceramic technologies to develop and commercialize a broad range of innovative, high-performance spine and joint implants for the growing orthopedic device market. Its products under development include a spine implant that represents a new standard of care in the treatment of spinal injuries, diseases, and other disorders. The company employs 60 people at its facility in Salt Lake City, Utah.

Situation:

To maintain their lead in a competitive industry, AMEDICA realized continuous improvement for their operations was not an option but a requirement. Prior to working with the MEP Utah, AMEDICA developed a strong problem-solving culture based on the Six Sigma DMAIC (Define, Measure, Analyze, Improve, Control) model. This model helps them handle the complex variations in their processes. AMEDICA also made the decision to use Lean manufacturing concepts to get their employees actively involved and to reduce non-value added activities. Lean complimented their Six Sigma approach and became a strategic part of their overall continuous improvement methodology. After attending a Lean symposium, AMEDICA met with the Utah Manufacturing Extension Partnership (Utah MEP), and asked for assistance with implementing Lean.

Solution:

MEP Utah started the Lean roll out by recommending everyone at AMEDICA attend a Lean 'hands on' learning exercise. After everyone was familiar with the terminology of Lean, AMEDICA developed internal Lean experts and using their internal expertise rolled out the Lean tools 5S (Sort, Set in Order, Shine, Standardize, Sustain), Single Minute Exchange Dyes (SMED) and Total Productive Maintenance (TPM) across the shop floor. MEP Utah, with funding secured for AMEDICA, facilitated several rapid Kaizen events. Using tools like Value Stream Mapping (VSM), standard work, visual and pull/flow, the flow constraint in the VSM was identified and eliminated. The Lean implementation also included the material research and development function. After the implementation phases of the Lean tools, MEP Utah developed the starting point of a Lean Management System (LMS) which includes the daily 'report out' process and assures that the hard earned gains over the last few years will be sustained and improved even further.

Results:

- * Reduced lead time from 75 days to 45 days.
- * Improved performance of research and development group by 50 percent.
- * Improved employee involvement and skill levels.

Testimonial:

www.mep.nist.gov



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"MEP Utah has provided valuable assistance in basic and advanced Lean training. Their instruction has been both efficient and effective. Under their guidance, we have also implemented on-going Lean training and Kaizen activities to make further gains. We sincerely appreciate their support and look to continue this beneficial relationship in the future."

Bryan McEntire, VP Operations